INFERENTIALITY IN KALASHA AND KHOWAR[1]

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In this paper I present data on the coding of inferentiality/ evidentiality distinctions in the far Northwestern Indo-Aryan (Dardic) languages Kalasha and Khowar, pointing out the remarkable similarity of semantic developments in these languages to those described for the Turkish particle miş (Slobin and Aksu 1982) and Lhasa Tibetan (DeLancey 1985-a, b 1986). I then suggest that these data support an explanation of these developments in terms of the model developed by DeLancey relating both volitionality and inferentiality distinctions to the conceptualization of events as causal chains.

Describing Lhasa Tibetan (1985-a:58-9), DeLancey notes that tense/aspect and evidentiality are coded by a system of copular auxiliaries which are specified for evidentiality. The direct knowledge members of the pairs, yin and yod, represent the speaker's direct knowledge or knowledge "which is well-integrated into his conceptual framework," while the inferential members red and 'dug indicate "inference or new information which has yet to be integrated into the speaker's conceptual framework." (p. 59)

Characterizing the semantic commonality of the various uses of the Turkish evidential particle miş, Slobin and Aksu (1984:195-6) find that "the essence of all uses of miş is to encode situations for which the speaker is not somehow prepared—situations on the fringe of consciousness, learned of indirectly, or not immediately assimilable to the mental sets of the moment. . . . It is as if the speaker were saying: 'I have just become aware of something for

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In the transcription system employed in this paper, capitalization of consonants denotes the retracted member of a dental/retracted pair. The exception to this statement is the use of <G> for the voiced velar fricative in Khowar. In Kalasha words <l> represents a strongly velarized 'l' and <ly> a palatalized 'l'. In Khowar examples, <l> represents palatalized 'l', while <L> represents a velarized 'l'. Capitalization of vowels (needed for Kalasha) denotes contrastive retroflexion (or rhotacization) of vowels.

which I had no premonitory consciousness´."

1. Kalasha

Kalasha has nine basic finite tense-aspect forms, exemplified here with the first person singular of the verb kárik 'to do´.

Non-past

PRESENT/FUTURE-NON SPECIFIC (Henceforth P/F-NS)
a kár-im 'I do, I will do´

PRESENT/FUTURE-SPECIFIC (P/F-S)
a kár-im dai 'I am doing, will do (at a specific time)´

PRESENT PERFECT (P PERF)
a kai á-am 'I have done´

Past

PAST-ACTUAL (PST-A)	PAST-INFERENTIAL (PST-I)
a ár-is 'I did´	a káda him 'I did (reportedly, inadvertently)´
PAST IMPERFECTIVE-ACTUAL (PST IMPFV-A)	PAST IMPERFECTIVE-INFERENTIAL (PST IMPFV-I)
a kar-íman áy-is 'I was doing´	a kar-íman ásta him 'I was doing (reportedly)´
PAST PERFECT-ACTUAL (PST PERF-A)	PAST PERFECT-INFERENTIAL (PST PERF-I)
a kai áy-is 'I did, had done´	a kai ás-ta him 'I had done, did (reportedly)´

The past tense verb forms are obligatorily coded for the distinction between what I shall call "actual" and "inferential" meaning.[2] The PST-A consists of verb stem plus preterital person/number suffixes.[3] The PST-I consists of the past participle plus person/number marking for 1st and 2nd persons supplied by appending the finite PST-I forms of hik 'to become´. 3rd person sg. and pl. have no overt specification of person and

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[2] "Actual" subsumes such specific meanings as personally witnessed, having long standing in one´s conceptual repertoire, etc., while "inferential" is a cover term for such more specific meanings as Slobin and Aksu´s "unprepared mind", DeLancey´s "new information", "hearsay," "admirative", "inferred", etc.

[3] Past stems in Kalasha (and in Khowar) are either identical with the present stem or preserve OIA a-augments.

number. Participial tenses are constructed with the imperfective[4]
or perfective participle plus a finite form of 'be' as auxiliary.
The inferentiality distinction is effected by selecting either the
actual or the inferential past tense form of 'be'.[5] I give here
examples illustrating the morphologically expressed actual-
inferential contrast for past-tense forms.

1-a) PST-A
       áma   krom   mai baaya   ár-au
       this(ACC) work(NOM) my brother(NOM) do(PST-A)-3s
       'My brother did this work (I saw him do it)'.

b) PST-I
       a ayá a   ãgár Zot   káda
       I here come(PST-A)-1s fire already do(PST-I)-3
       'I came here, (and someone) already (had) made
        the fire (in my absence so I didn't see it being done).'

2-a) PST IMPFV-A
       japaní   bo   DAú   žu-íman áy-is
       japanese much beans eat(PST IMPFV-A)-3s
       'The Japanese man used to eat a lot of beans.'

b) PST IMPFV-I
       šató ek gagí-ik dúi   tan hátya za   kai
       that one cow(DIM) milk(CP) self for   food do(CP)
       žu-íman ásta
       eat(PST IMPFV-I)-3s
       'He used to milk that little cow and make some food for
       himself and eat.'

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[4] The imperfective participle consists of verb root plus -
íman and the perfective participle of verb root plus -i. There
are a few irregular perfective participial forms, but all
imperfective participles are regularly formed.

[5] 'Be' has two forms ásik (animate) and šik (inanimate).
Animate and inanimate forms are available in the 3rd person in
both past and present tenses. The relevant paradigms are:

<div align="center">'be' (PST-A)</div>

	Sg.	Pl.
1.	áy-is	áy-imi
2.	áy-i	áy-ili
3. (an.)	áy-is	áy-ini
(inan.)	aš-ís	aš-íni

<div align="center">'be' (PST-I)</div>

	Sg.	Pl.
1.	ásta him	ásta hik
2.	ásta his	ásta hali
3. (an.)	ásta	ásta
(inan.)	ši-ála	ši-ála

In (2-a) the speaker is reporting a fact that he knows from direct
personal experience, while (2-b) is part of a traditional story,
the events of which are imaginary.

3-a) <u>PST PERF-A</u>
     ŽoŠi   banda-ík-a   krAkÁ pai áy-is
     Zhoshi instruct-INF-PURP K.   go(PST PERF-A)-3s
     'He went go Karakal to call them to participate in the Zhoshi
     festival.'

b) <u>PST PERF-I</u>
     phăD   čhíni   mizók guum Žúla
     storage bin break(CP) mouse wheat eat(PST-I)-3s
     a jag-és   guum Žúi aŠ-íŠ
     I look(PST-A)-1s wheat eat(PST PERF-A)-3s
     mizók Zot   guum Žúi ásta
     mouse already wheat eat(PST PERF-I)3s
     'A mouse/mice broke the storage bin and ate the wheat. (When) I
looked, the wheat was eaten. A mouse had already eaten the wheat.'

In (3-a) the speaker is reporting an action that he knows about
directly, while in (3-b) he infers that a mouse ate the wheat when
he sees that some of the wheat in the bin has been eaten.

    The inferential forms have a variety of specific functions,
all of which are derivable from the basic semantic distinction
between the inferential and the actual forms--that of action
witnessed vs. action not witnessed by the speaker. In the past
tenses, this, and not time depth, is the critical semantic
parameter. Thus the PST-I forms can be used for reporting actions
taking place in both the recent and the distant past, provided that
the speaker learned about them other than by direct observation.
Example (4) illustrates its use to report an action in the recent
past.

4) aú   dúi   gála   atrá
   bread burn(CP) go(PST-I)-3s there
   'The bread burned there.'

This sentence signals that the speaker did not see the bread burn;
the context is that she had asked her daughter to keep an eye on
the bread cooking. When the mother returned to find the bread
burned she said, in annoyance, the sentence given as (4).

    Inferential forms occur when we have a speaker observing a
state resulting from an event which took place in his absence, as
in (5):

5) páyp-una uk   CuCú húla
   pipe-LOC water dry become(PST-I)-3s
   '(I see that) the water has dried up in the pipe.'

This sentence was uttered when the speaker walked up to the water
pipe expecting to get some water and saw that there was none in it.

PST-I forms often carry the main burden of narration in storytelling, whether about the real world to relate actions unseen by the speaker, or about the imaginary world. Example (6) is from a narrative dealing with the real world, and (7) from a story about the realm of legend and myth.

6) tará pará-e   té-o   pai   tará ne níla
   there go(PST-A)-when they-o goats theré not take(PST-I)-3s
   'When I went there, (I found that) they hadn't taken the goats
    there.'

7) ek kursí-una Sa   nis-úna
   one chair-LOC king sit(PST-I)-3s
   'The king sat down on one chair.'

In the non-past tenses, the basic verb forms are semantically but not morphologically coded for ACTUAL meanings (since morphological counterparts with INFERENTIAL meaning are not available), but corresponding inferential forms are constructed by employing two semi-analytic mechanisms. In the first of these, the form _húla_, which is the inferential past 3rd person form of _hik_ 'to become', is appended to the finite verb in non-past tenses to yield a form with inferential semantics. Example (8-b) illustrates the construction with _húla_.

8-a) P/F-NS (actual semantics)
     se pešáur jély-una á-au
     he P.   jail-LOC be(ANIM)(P/F)-3s
     'He is in jail in Peshawar (I knew it already).'

b) P/F-NS (inferential semantics)
     se pešáur jély-una á-au   húla
     he P.   jail-LOC be(P/F)-3s become(PST-I)-3s
     'He is in jail in Peshawar (and I just found out about it).'

Functioning in normal discourse and conversation, or in narration of directly experienced events, the general meaning generated by the inferential construction with _hula_ is that the speaker has just found out about (i.e. was not aware of before) the content of the assertion. Specific nuances can range among simply new information (9), inference (10), mild surprise (11), regret (12), annoyance (13), and even compliments (14). These meanings are almost identical to the various senses identified by Slobin and Aksu (1984) for the Turkish evidential particle -_mis_-, who find that -_mis_- conveys inference, i.e. information concluded on the basis of indirect evidence, hearsay, surprise, irony, and compliments.

I give here examples of each of these shades of meaning in constructions with _húla_.

9) new information
   ameriká bo   hútala dur   kai ši-an   húla
   America very high   house make(P PERF)-3p become(PST-I)3
   'In America there are (built) very tall houses (i.e. buildings).'

A sentence like (9) would be uttered, for example, by a
villager who has just returned home after visiting the outside
world and is relating to his friends and family the new things he
has learned.

10) inference
        se ne i-ú   húla
        he not come(P/F-NS)-3s become(PST-I)-3s
        (It seems that) 'He won't come.'

Sentence (10) could be uttered in a situation when the speaker
concludes (infers) on the basis of some indirect evidence--a
letter, for example, or information that the subject is occupied
with other work and is very busy--that the subject of discussion
won't be able to come.

11) surprise
      mó-ta   ragéSTi nís-dai   húla
      no(IMP)-TOP early   take(P/F-S)-2s become(PSTI)3s
      'You don't say! You are taking them out (too) early.' (Trail,
      unpublished text)

The context for (11) is that two shepherds are discussing when they
are going to take their goats to the high pastures for the summer
season. Upon hearing that the first speaker is about to take his
goats up, the second speaker utters (11).

12) regret
        a   galyatí kai á-am   húla
        I(NOM) mistake do(PRES PERF)-1s become(PST-I)-3s
        'I have made a mistake (and just realized it).'

13) annoyance
a) ko DúD-iu   húla
   why sleep(P/F-NS)-3s become (PST-I)-3s
   'Why is he sleeping?'

b) tai   bo   tása   paysá di-élyi   húla
   you(OBL) much he(OBL) money give(NEC) become(PST-I)-3s
   mai   bo   afsús
   I(OBL) very sorry
   'You have to give him a lot of money. I am sorry (to learn of
   it).'

14) compliment
        ájab   krom káda-his
        remarkable work do(PST-I)-2s
        'You have done a remarkable job!' (Trail, unpublished text)

In (13-a) the sense is conveyed that it is an inappropriate time
for sleeping, that the person mentioned shouldn't be sleeping, and
in (13-b) the annoyance is overtly expressed. In (14) the speaker
expresses his surprise and approval at seeing (for the first time)
what his friend has done.

The second mechanism involves the 3rd person pl. P/F-NS form
of ghõik 'to say' in construction with the infinitive of the main
verb. This yields an expression with specifically "hearsay"
semantics, glossable as something like 'I hear that [S]' or 'It is
said that [S]'. With this construction (a) there is no agent of
'saying' in the conceptual framework, and (b) the speaker does not
commit himself to the accuracy of the assertion. This construction
is illustrated in (15).

15-a) se pešáur   jély-una   áyik   ghõ'-an
      he Peshawar jail-LOC be(ANIM)-INF say(P/F-NS)-3p
      '(I hear that/it is said that) he is in jail in Peshawar.'

b) ne   šik   ghõ'-an   mai putr
   not be(INAN)-INF say(P/F-NS)-3p my   son
   '(I hear that/it is said that) there isn't/aren't any, my son.'

. There is yet a third place where the semantics of
inferentiality-evidentiality finds expression. Kalasha has an
incipient system of compound verbs consisting of the perfective
participle plus a finite form of the "vectors" 'go' and 'put'. In
Kalasha, compound verbs with 'go' are associated with the semantics
of the "prepared mind". For example, sentences such as (16).

16) tu   išlyégi   par-ís   atrá
    you slip(PFV PPL) go(P/F-NS)-2s there
    'You will slip there.'

occur as warnings, which are utterances referring to some
undesirable situation of which one has specifically premonitory
awareness. In (16), the speaker says this because he knows that
the place where the addressee is walking is icy and slippery, and
is likely to cause a fall.[8]

. Compound verbs in 'put', on the other hand, are associated
with the "unprepared mind". For example, one might utter (17).

17) a   dalabása hísti   ath-és
    I(NOM) sweepings throw(PFV PPL) put(PST-A)-1s
    'I threw out the sweepings/trash.'

if he had realized after throwing out the trash, that there was
something he needed in it. The sense conveyed is that the action
was done mistakenly, that it had unforseen negative consequences

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[8] Khowar has a similar compound verb formation in 'go' with
much the same semantics. In Tibetan also (DeLancey 1985:210) the
auxiliary son (< 'go') is associated with the non-inferential
(i.e. first-hand knowledge) semantics in the perfect. In Bashir
(1988) I argue that compound verbs in jānā 'go' in Hindi, too,
are associated with the semantics of the prepared mind.

which the speaker only realized in hindsight.[7]

     <u>Inferentiality and volitionality</u>. DeLancey (1985-a:59) notes
that in Lhasa Tibetan "with first-person (and with second person
subjects in yes/no questions) the choice of auxiliary reflects
volitionality; -<u>gyi-'dug</u> and -<u>gi-red</u> (the new/indirect knowledge
forms e.b.) occur with non-volitional actors, and -<u>gyi-yod</u> and -<u>gi-
yin</u> (the old/direct knowledge forms e.b.) with volitional actors."

     In Kalasha also, with first person agents, the inferential
form gives a sense of unconscious or inadvertent action. Consider
the examples in (18-a,b,c), all of which are actual utterances
recorded in context.

18-a) atrá   thai á-am   ắgá   ne   thi
     there put(PRES PERF)-1s aware not become(CP)
     pható gála him
     then go(PST-I)-1s
     'I put it there. Then without remembering (it), I left.'

b) a   ắgá   ne   húla him
   I(NOM) aware not become(PST-I)-1s
   'I didn't remember (to get up and make your breakfast, although
   I had intended to).'

c) tai   Tayp   atrá ásta tháy-o   DúD-ila him
   you(OBL) tape recorder there also put(CP)-o sleep(PST-I)-1s
   'I must have put your tape recorder there and gone to sleep
   (without realizing it).'

In (18-c) the speaker, having gone to sleep inadvertently,
experienced surprise when he realized upon awakening where he had
put the tape recorder. Aksu-Koc and Slobin (1982:192) have an
almost identical example with the verb 'sleep', which the speaker
says upon awakening over his books. I reproduce it here as (19).

19) uyu-muş-um [=Aksu and Slobin's 13]
   sleep-mIş-1sg
   'I must have fallen asleep.'

2. <u>Khowar</u>

     In Khowar both actual and inferential forms are available in
all tenses. The inferential forms are constructed (with the
exception of one past imperfective form) with the past inferential
form of <u>bik</u> 'to become'. The actual-inferential contrast in the
future is illustrated in (20).

<u>Actual</u>

20-a) hasé pešáur-o-t   no   bir

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    [7] Similarly in Khowar, there is a compound verb formation in
'leave, let go' which has the same semantics.

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        he    Peshawar-OBL-DAT not go(P/F-A)-3s
        'He will not go to Peshawar.'
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Inferential

b) pešáur-o-te   no   boGák bir-ái⁸
   Peshawar-OBL-DAT not go(P/F-I)-3s
   '(Reportedly/I just learned that) he is not going to Peshawar.'

c) jam korák birét-am
   good do(P/F-I)-1s
   '(It turns out/I just found out) that I am doing (it) well.'

In (20-a) the speaker is reporting information that he has
known for some time, while in (20-b) the inferential form conveys
that he has just found out that the subject is not going to
Peshawar. Similarly, In (20-c) the speaker hadn't realized that he
was doing well until informed by some outside source. In (21) we
see the contrast in the simple past tense.

21-a)   <u>Actual</u>
        awa khilkí-o   xuríst-am
        I   window-OBL open(PST-A)-1s
        'I opened the window.'

b) ohó tonjéiru birét-am
   oh ruin(PST-I)-1s
   'Oh, I have ruined (it) (unintentionally, and I just realized
   this after observing the bad results.)'

In (21-b) the inferential marking conveyed by <u>biretam</u> indicates
that the speaker (i) did the action (i.e. caused the result)
inadvertently and (ii) has just become aware of (the nature/ effect
of) his action. Thus we see that in Khowar the inferential form
with 1st person subject also conveys a sense of indavertency or
non-volitionality. Also, the sense that an action was mistaken or
wrong often develops in this context. Sentence (22) gives another
example of this type of meaning.

22) awa   plakh-o   nuróGi Cakeáwa birét-am
    I(NOM) spark plug-OBL upside down put in(PST IMPFV-I₂)-1s
    jam bélut   misrí   paidá hoi
    fortunately mechanic appear(PST-A)-3s
    'I was about to put the spark plug in upside down, when
    fortunately a mechanic appeared.'

In (23) we see the contrast between the actual and the inferential
imperfective past forms.

23-a) hasé gyáwa   awá niveš-áu ošót-am

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⁸ The inferential counterpart of the present/future-actual
is constructed with the agent noun (in -ák) plus the PST-I of
'become'.

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        he    come(PPL) I    write(PST IMPFV-A)-1s
        'When he came I was writing.'
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b) hasé gyáwa   awá niveš-áu asit-ám
   he   come(PPL) I   write(PST IMPFV-I₁)-1s
   'When he came I was writing.'

The difference between the actual and inferential versions of (23)
is that in (a) the speaker$_1$ was himself aware that the visitor$_j$ had
come at the time when he$_1$ was writing; in (b) the fact that a
visitor arrived when the speaker$_1$ was writing was reported to the
speaker by someone else (either the visitor$_j$ or a third party$_k$).

     The actual/inferential opposition also functions in less
obvious ways. Consider examples (24-a and b), expressing
contrafactual conditionals--the former employing the subjunctive,
and the latter the PAST IMPFV-I₁ form.

24-a) ta   ban   no dirúa   sabaq-o-te no boGésu
      you(OBL) punishment not give(CTF) lesson-OBL-DAT not
                                                        go(SUBJ)-2s

      'If you had not been punished you would not have gone to
      school.'

b) ta   ban   no dirúa   sabaq-o-te
   you(OBL) punishment not give(CTF) lesson-OBL-DAT
   no   boG-áu asit-áu
   not go(PST IMPFV-I)-2s
   'If you had not been punished you would not have gone to
    school.'

The difference between (24-a) and (24-b) is that in the former,
with the subjunctive form in the then-clause, the speaker knew that
this would be the consequence at the time of administering the
punishment, while in (b), with the inferential form in the then-
clause, he only realized that this consequence resulted from his
action afterwards - on the basis of some information acquired after
administering the punishment. (25-a and b) show another example of
the same semantic distinction.

25-a) ispá torén   no girúa   duáxt-o hurík-o
      we   from above not come(CTF) door-OBL open(INF)-OBL
      no   bes-ám
      not be able(SUBJ)-1s
      'If we hadn't come from above (as opposed to from below), I
       wouldn't have been able to open the door.'

b) ispá torén   no girúa   duáxt-o hurík-o
   we   from above not come(CTF) door-OBL open(INF)-OBL
   no   bau asitám
   not be able(PST IMPFV₂)-1s
   'If we hadn't come from above, I wouldn't have been able to
    open the door.'

In (25-a) the speaker knew at the time of making the decision to

come from above the house, that if we came from below we would not
be able to open the gate, while in (25-b) he only discovered this
after we in fact came from above and saw the situation of the locks
and the door.

The distinction in (24) and (25) is almost identical with that
described by DeLancey for two of his Tibetan examples, which are
reproduced here as (26).

26-a) ŋa ril-soŋ-ŋa   [DeLancey 1985-b:64]
        I   fall-PERF
        'I did fall (just as I expected).'

b) ŋa ril-byuŋ
   I   fall-PERF
   'I fell down'

In (26-a), in DeLancey's words, the speaker "understands the cause
of the event before it takes place, while the speaker of (26-b)
does not." The general point is that the evidential (cf. "actual",
"prepared mind") form is used when the speaker is aware of the
entire cause-effect chain from start to finish.

The minimal pairs in (24) and (25), which by embedding the
verb forms in a counterfactual conditional context separate and
overtly express both the cause and the effect ends of the cause-
effect chain, provide examples clearly supporting DeLancey's claim
that "the semantic distinction between inferential (i.e. marking a
statement as based on indirect evidence) and evidential (i.e. based
on direct evidence) perfects should be interpreted as reflecting
whether or not the speaker has direct knowledge of the Cause end of
the Cause-Effect schema which constitutes an event, or only of the
Effect end (i.e. the evidence on the basis of which the event is
inferred)." (1985:63)

Viewed in this context, the Kalasha and Khowar evidence also
supports DeLancey's analysis of the relationship between
evidentiality and volitionality. The explanation for the fact that
a single formal contrast functions both in the system that encodes
epistemological distinctions and in the system that encodes
categories pertaining to the action-event "in the world" lies in a
parallelism between these two systems, such that the cause of an
utterance (speaker's knowledge status) is treated as analogous to
the cause of an act (actor's volitionality status).

ABBREVIATIONS

A	–	actual	IMPFV	–	imperfective
ABL	–	ablative	INF	–	infinitive
ACC	–	accusative	OBL	–	oblique
ANIM	–	animate	PAST	–	past
CP	–	conjunctive	P	–	present
		participle	P/F	–	present/future
CTF	–	contrafactual	PERF	–	perfect
DAT	–	dative	PFV	–	perfective

I   -   inferential   PURP -   purpose
IMP   -   imperative   TOP -   topic marker

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